

Customer No. 24498
Attorney Docket #: RCA89086 US
Office Action Date: October 29, 2008

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Listing of Claims:

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1. (Currently amended) An adaptive transport decoder, comprising:
 - a plurality of sources of a first respective streams of packets, each stream including a payload, and having a first different respective transport protocol;
 - ~~a source of a second stream of packets, each including a payload, and having a second transport protocol, wherein said second transport protocol is different than said first transport protocol;~~
 - a protocol decoder for extracting the respective payloads from the packets from ~~either each~~ selected one of the ~~first and second~~ packet stream sources according to said respective different ~~first and second~~ transport protocols; and
 - a selector, having respective ~~first and second~~ input terminals coupled to each of the first and second respective packet stream sources, and an output terminal coupled to the protocol decoder, and responsive to a select signal for selectively coupling either each one of the first and second said packet stream sources to the protocol decoder by means of said output terminal; and
 - wherein the protocol decoder comprises a processor, responsive to a corresponding plurality of respective control programs for processing the packets from said packet stream sources according to their respective transport protocols to extract the respective payloads, and a further control program for switching between said respective control programs for processing the packets.

2. (Canceled)

3. (Currently amended) An adaptive transport decoder, [according to claim 1] comprising:
 - a source of a first stream of packets, each including a payload, and having a first transport protocol;

Customer No. 24498
Attorney Docket #: RCA89086 US
Office Action Date: October 29, 2008

a source of a second stream of packets, each including a payload, and having a second transport protocol, wherein said second transport protocol is different than said first transport protocol;

a protocol decoder, coupled to the first and second packet stream sources, for extracting the respective payloads from the packets from a selected one of the first and second packet stream sources according to said respective different first and second transport protocols; and

a selector, having respective input terminals coupled to the first and second packet stream sources, and an output terminal coupled to the protocol decoder, and responsive to a select signal for selectively coupling either one of the first and second packet stream sources to the protocol decoder;

wherein the protocol decoder comprises a processor, responsive to a first control program for processing the packets from the first packet stream source according to said first transport protocol to extract the respective payloads, a second control program for processing the packets from the second packet stream source according to said second transport protocol to extract the respective payloads, and a third control program for switching between the first control program and the second control program.

4. (Allowed) An adaptive transport decoder comprising:

a source of a first stream of packets, each including a payload, and having a first transport protocol;

a source of a second stream of packets, each including a payload, and having a second transport protocol, wherein said second transport protocol is different than said first transport protocol;

a protocol decoder, coupled to the first and second packet stream sources, for extracting the respective payloads from the packets from a selected one of the first and second packet stream sources according to said respective different first and second transport protocols; and

a selector, having respective input terminals coupled to the first and second packet stream sources, and an output terminal coupled to the protocol decoder, and responsive to a select signal for selectively coupling

Customer No. 24498
Attorney Docket #: RCA89086 US
Office Action Date: October 29, 2008

either one of the first and second packet stream sources to the protocol decoder;

wherein the protocol decoder comprises a processor, responsive to a first control program for processing the packets from the first packet stream source according to said first transport protocol to extract the respective payloads, a second control program for processing the packets from the second packet stream source according to said second transport protocol to extract the respective payloads, and a third control program for switching between the first control program and the second control program; and wherein:

the processor includes a memory for storing the first, second and third programs; and each of the first and second control programs comprises:

a packet handler; executed in response to each received packet;

a plurality of interrupt drivers, stored in the memory at respective locations, called by software interrupt;

an interrupt vector, stored at a fixed, predetermined location in memory, including a plurality of entries, each containing a pointer to a respective location of an interrupt driver.

5. (Allowed) The adaptive transport decoder of claim 4 wherein: the third control program switches between the first and second control programs by moving the interrupt vector of one of the first and second control programs to the fixed predetermined location in the memory, and simultaneously moving the interrupt vector of the other one of the first and second control programs to another location in the memory.

6. (Allowed) The adaptive transport decoder of claim 4 wherein each of the first and second control programs further comprises a buffer for storing the respective extracted payloads at a location in the memory.

7. (Allowed) The adaptive transport decoder of claim 6 wherein:

Customer No. 24498
Attorney Docket #: RCA89088 US
Office Action Date: October 29, 2008

the third control program switches between the first and second control programs by moving the interrupt vector of one of the first and second control programs to the fixed predetermined location in the memory, and simultaneously moving the interrupt vector of the other one of the first and second control programs to another location in the memory; and.

reallocating the buffer to a location in the memory.

8. (Allowed) The adaptive transport decoder of claim 4 wherein: the packet handler is an interrupt handler stored in the memory at a location; and

one of the entries in the interrupt vector points to the location of the packet handler.

9. (Allowed) The adaptive transport decoder of claim 8 wherein: each of the first and second packet stream sources generates an interrupt request signal when a packet is available; the entry in the interrupt vector pointing to the location of the packet handler is responsive to the interrupt signal from the selected packet stream source.

10. (Allowed) An adaptive transport decoder comprising: a source of a first stream of packets, each including a payload, and having a first transport protocol;

a source of a second stream of packets, each including a payload, and having a second transport protocol, wherein said second transport protocol is different than said first transport protocol; and

a protocol decoder for extracting the respective payloads from the packets from either selected one of the first and second packet stream sources according to said respective different first and second transport protocols ; and further comprising:

a selector, having respective first and second input terminals coupled to the first and second packet stream sources, and an output terminal coupled to the protocol decoder, and responsive to a select signal for

Customer No. 24498
Attorney Docket #: RCA89086 US
Office Action Date: October 29, 2008

selectively coupling either one of the first and second packet stream sources to the protocol decoder; and wherein:

 said protocol decoder further comprises a processor responsive to first, second and third control programs, the third control program is responsive to the select signal to switch to the first control program for processing according to said first transport protocol when the first packet stream source is coupled to the protocol decoder and to switch to the second control program for processing according to said second transport protocol when the second packet stream source is coupled to the protocol decoder.

11. (Currently amended) An adaptive transport decoder comprising:

 a source of a first stream of packets, each including a payload, and having a first transport protocol;

 a source of a second stream of packets, each including a payload, and having a second transport protocol, wherein said second transport protocol is different than said first transport protocol;

 a protocol decoder, coupled to the first and second packet stream sources, for extracting the respective payloads from the packets from either selected one of the first and second packet stream sources according to said respective different first and second transport protocols; and

 a payload processor coupled to the protocol decoder for processing the respective payloads extracted from the packets from the selected packet stream source in accordance with said respective first and second transport protocols; wherein

said processor is responsive to a first control program for processing the packets from the first packet stream source according to said first transport protocol to extract the respective payloads, a second control program for processing the packets from the second packet stream source according to said second transport protocol to extract the respective payloads, and a third control program for switching between the first control program and the second control program.

12. (Currently amended) An adaptive transport decoder comprising:

Customer No. 24498
Attorney Docket #: RCA89086 US
Office Action Date: October 29, 2008

a source of a first stream of packets, each including a payload, and having a first transport protocol;

a source of a second stream of packets, each including a payload, and having a second transport protocol, wherein said second transport protocol is different than said first transport protocol;

a protocol decoder for extracting the respective payloads from the packets from either selected one of the first and second packet stream sources according to said respective different first and second transport protocols;

a selector responsive to a select signal for selectively coupling either one of the first and second packet stream sources to the protocol decoder;

wherein the protocol decoder comprises a processor, responsive to a first control program for processing the packets from the first packet stream source according to said first transport protocol to extract the respective payloads, a second control program for processing the packets from the second packet stream source according to said second transport protocol to extract the respective payloads, and a third control program for switching between the first control program and the second control program;
and wherein:

each packet in the first and second packet streams further comprises a header containing information related to the payload;

the protocol decoder comprises a register for storing information from a header of a received packet; and

the protocol decoder accesses the register to obtain the information for processing said packets according to said respective first and second transport protocols.